

Q4
cont

a plurality of colors (wavelengths: $\lambda_1, \lambda_2, \dots, \lambda_n$), and focused at photodetector array 4. Each photodetector supplies an electric signal having the differential frequency produced by modulators 3.2, 3.2' and a phase $\Delta\phi$ which relates to measured quantity ΔL (distance to measuring object 5) and to corresponding wavelength λ_v : $\Delta\phi = (2 \cdot \pi/\lambda_n) \cdot \Delta L$.

IN THE CLAIMS:

Please amend the claims as follows:

Q5
2. (Amended) The measuring device according to claim 1, wherein:

the surface characteristics, shapes, distances, distance variations, and vibrations are measured in narrow, hollow spaces of the measuring object.

Q6
4. (Amended) The measuring device according to claim 3, wherein:

the free end region of the fiber is one of: i) polished, ii) provided with a diaphragm, iii) configured as one of a lens and a prism, iv) treated against disturbing reflected light, v) beveled, vi) reflection-coated, vii) antireflection-coated, and viii) provided with a combination of being polished, provided with the diaphragm, configured as one of the lens and the prism, treated against disturbing reflected light, beveled, reflection-coated, and antireflection-coated.

5. (Amended) The measuring device according to claim 4, wherein:

the free end region of the fiber is at least one of:
i) provided with a drop of adhesive, and ii) roughened.

Please add the following new claims: